# TC-SP55

# SERVICE MANUAL

*AEP Model*
*UK Model*
*E Model*

TC-SP55 is the deck section in CMT-SP55TC, and TC-SP55 is sold in the option as a tape deck of CMT-SP55MD.

This stereo system is equipped with the Dolby* B-type noise reduction system.
* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of the Dolby Laboratories Licensing Corporation.

| | |
|---|---|
| Model Name Using Similar Mechanism | NEW |
| Tape Transport Mechanism Type | CMAL2Z720A |

## SPECIFICATIONS

| | |
|---|---|
| Recording system | 4-track 2-channel stereo |
| Frequency response | (DOLBY NR OFF)<br>40 – 14,000 Hz (±3 dB)<br>using Sony TYPE I cassettes<br>40 – 15,000 Hz (±3 dB),<br>using Sony TYPE II cassettes |

### General

| | |
|---|---|
| Dimensions (w/h/d) incl. projecting parts and controls | Approx. 202 x 101 x 283 mm |
| Mass | Approx. 1.9 kg |
| Supplied accessory | System cable (1) |

Design and specifications are subject to change without notice.

## STEREO CASSETTE DECK

SONY®

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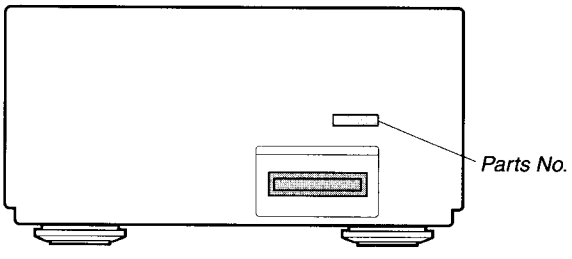
### MODEL IDENTIFICATION

*— BACK PANEL —*




| MODEL | PARTS No. |
|---|---|
| AEP, UK, AED models | 4-229-654-0□ |
| MY, SP models | 4-229-654-2□ |

- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

# SECTION 1
# SERVICING NOTE

This unit cannot be repaired by itself.
When repairing, connect the whole system except for the speaker.

### Cold Reset

- When the AC cord is removed, COLD RESET is done with TC-SP55.

### ST Test Mode

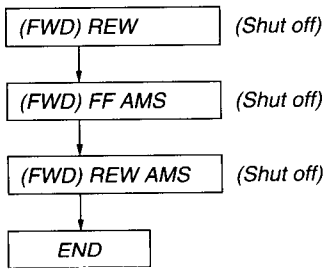
**Procedure :**

1. When the power ON, press the [I/⏻] button (TA) while pressing the [TUNING MODE] button (ST) and [PLAY MODE] buttons (CDP) together.
2. LCD are all turned on.
3. Press [TUNING MODE] button (ST) to enter the model destination indecation mode. "SP55 CE2" or "SP55 ASIA2" appears.
4. Every pressing of [TUNING MODE] button (ST) changes the display in the following order.
   MC Version → CD Version → ST Version → TC Version → TA Version → TM Version → model destination display.
5. Press [DISPLAY] button (ST) and the date appears as " 00615a "
   Every pressing of [DISPLAY] button (ST) changes the display in the Version display and model destination display.
6. Press [TUNER/BAND] button (ST) to enter the key check mode.
7. In the key check mode, the fluorescent indicator tube displays "Key 0 Vol 0". Each time a button is pressed, "Key" value increases. However, once a button is pressed, it is no longer taken into account.
   "Vol" Value increases like "1, 2, 3 ..." if rotating [VOLUME] knob (TA) in the clockwise direction, or decreases like "0, 9, 8 ..." if rotating in the counterclockwise diretion. (The TC-SP55 is not count.)
8. To exit from this mode, disconnect the power cord.

### MC Test Mode

**Procedure :**

1. When the power ON, press the [I/⏻] button (TA) while pressing [TUNING MODE] button (ST) and [REPEAT] button (CDP) together.
2. Frame of the MD mark and the CD mark flash, and "BASS/TRE FLAT" appears for a moment.
3. When the [VOLUME] knob (TA) is turned clockwise, "VOLUME MAX" appears for a moment.
4. When the [VOLUME] knob (TA) is turned counterclockwise, "VOLUME MIN" appears for a moment.
5. Select the function "TAPE" using the [FUNCTION] knob (TA).
   Set the test tape AMS-110A or AMS-120.
6. Press [DIRECTION] button (TC) to enter either "⟲" (loop) or "⇄" (two way).
7. Press the [CD SYNC REC] button (TC) to start the AMS test.




8. Number of AMS signals is counted during the AMS test and the message "EDG#" (# means a number) appears. When the test tape either AMS-110A or AMS-120 is used, the AMS signal is detected twice before shut off.
9. When the AMS test ends, either "OK" or "NG" appears.
10. To exit the MC test mode, either press the [I/⏻] button (TA) or perform the cold reset as described above.

## Aging Mode

• Mode for repeating operations of the CD player and TC deck automatically.

**When errors occur:**

Aging stops and a message indicating that an error has occurred such as "CD MEC ERR" is displayed.
(For details of errors, refer to "Error History Display Mode".)

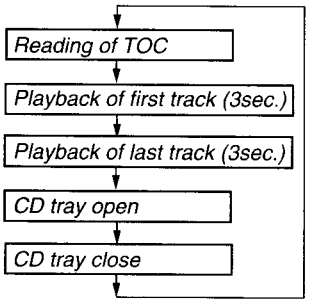
**When no errors occur:**

Aging is repeatedly performed.

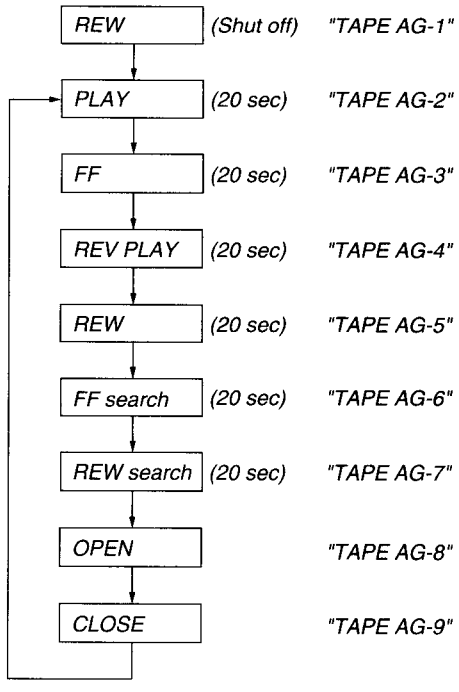
**Procedure:**

1. Load any CD and a tape.
2. Select the function "CD" using the [FUNCTION] knob (TA).
3. While pressing the [TUNING MODE] button (ST) and [▷] button (CDP), press the [I/⏻] button (TA).
4. "AGING" is displayed on the LCD briefly.
5. Operations are performed in the following sequence during aging.
   Every pressing of [DISPLAY] button (ST) changes the display in the CD display and TAPE display.

**CD :**




**Cassette :**




6. To end aging, execute the cold reset.

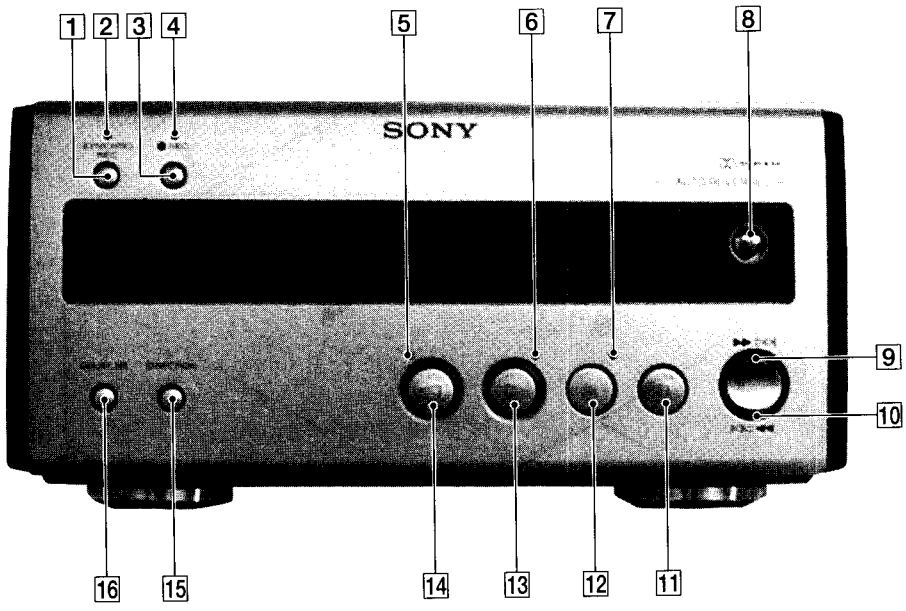
## Error History Display Mode

Mode for checking the history of errors which have occurred in the CD player.
Execute this mode after ending the aging mode.

**Procedure:**

1. Select the function "CD" using the [FUNCTION] knob (TA).
2. While pressing the [TUNING MODE] button (ST) and [▯▯] button (CDP), press the [I/⏻] button (TA).
3. "EMC@@EDC**" id displayed.
   @@: Number of mechanism errors (Last 3 errors)
   ** : Number of errors (NO DISC ERROR) which occurred after chucking (Last 3 errors)
4. To end, press the [I/⏻] button (TA) and turn OFF the power.
5. To erase the error history, perform cold reset.
   (While pressing the [TUNING MODE] button (ST) and [▶▶ ▷▷▯] button (CDP), press the [I/⏻] button.)

# SECTION 2
# GENERAL



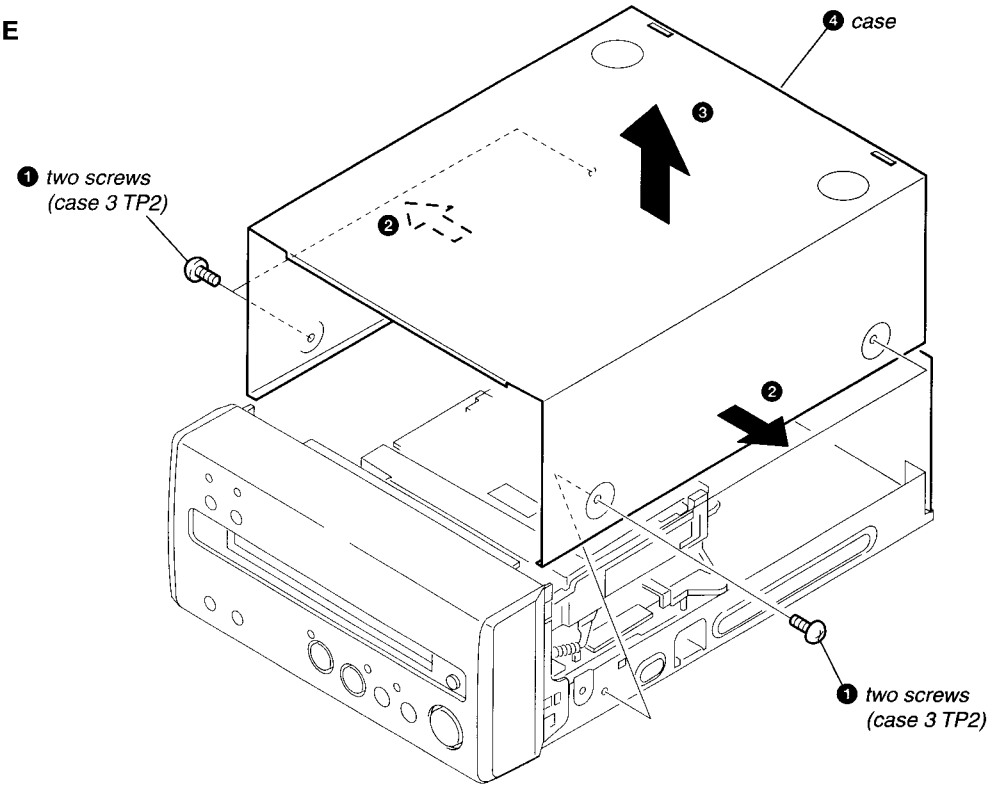

1 CD SYNC REC button
2 CD SYNC REC indicator
3 ● REC button
4 ● REC indicator
5 ◁ indicator
6 ▷ indicator
7 ▯▯ indicator
8 ⏏ button
9 ▶▶ ▷▷| button
10 |◁◁ ◀◀ button
11 □ button
12 ▯▯ button
13 ▷ button
14 ◁ button
15 DIRECTION button
16 DOLBY NR button

# SECTION 3
# DISASSEMBLY

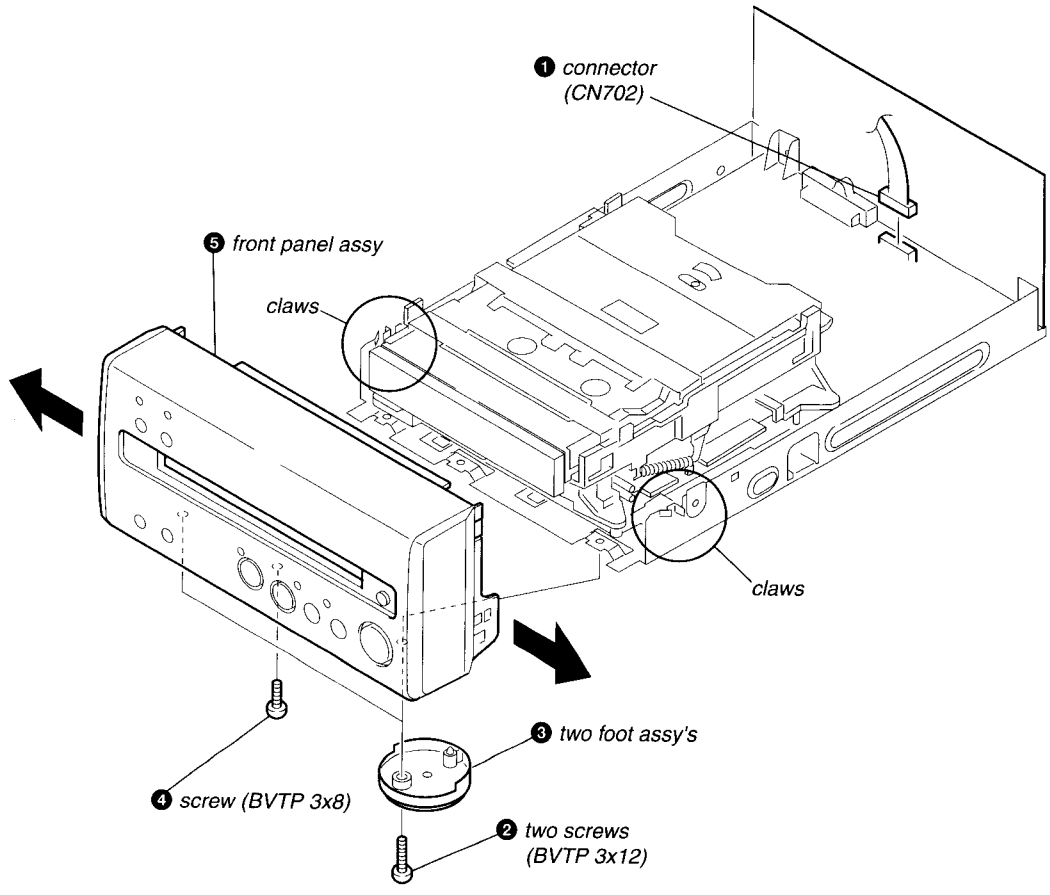
Set → Case → Front Panel Assy → Mechanism Assy (Page 7)
Case → Main Board (Page 7)
Mechanism Assy (Page 7) → Pinch Roller BLK Assy, Belt (Page 8)

**Note:** Follow the disassembly procedure in the numerical order given.

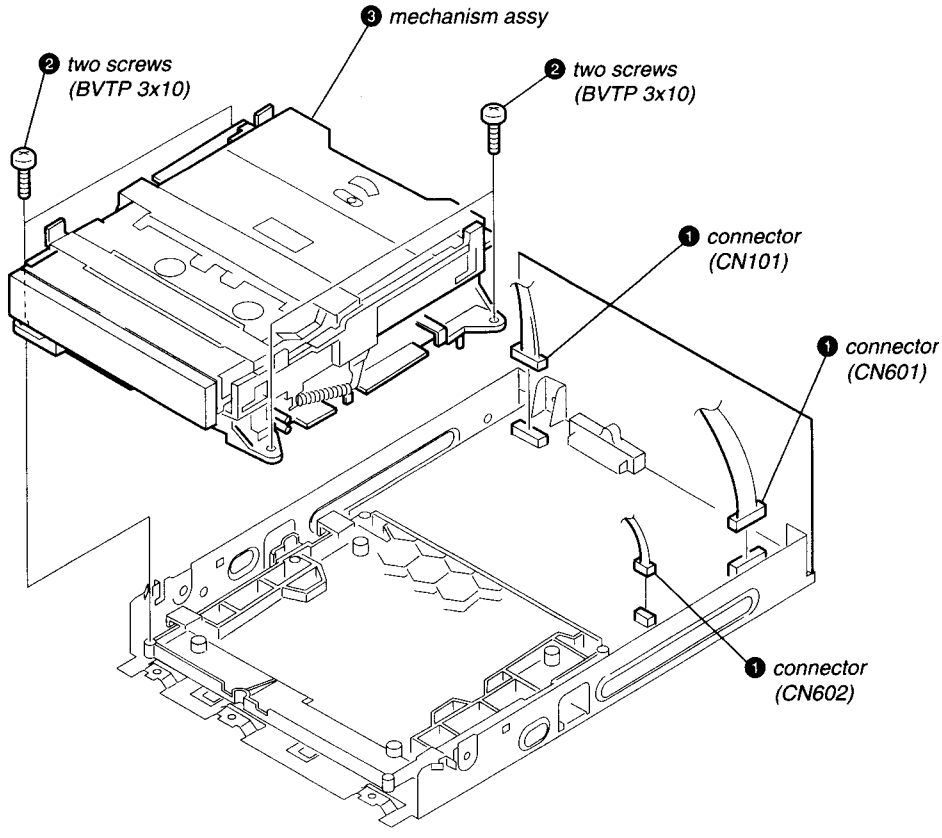
## 3-1. CASE



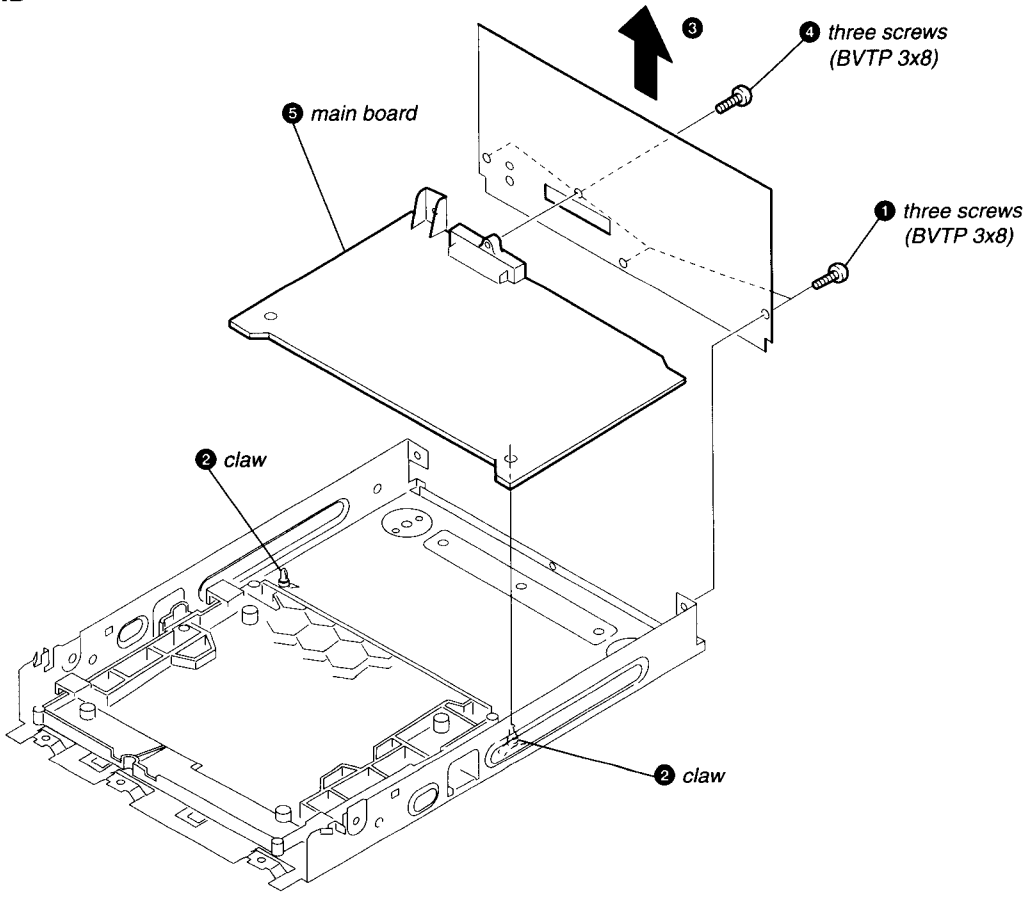

## 3-2. FRONT PANEL ASSY



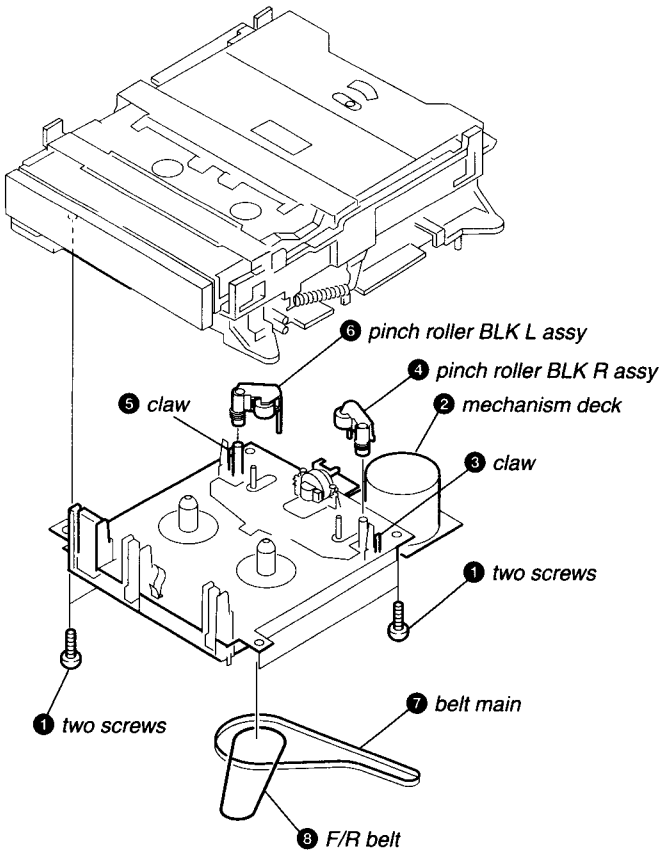
### 3-3. MECHANISM ASSY

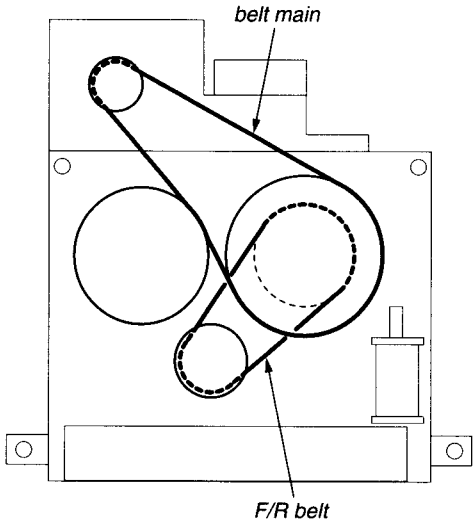



### 3-4. MAIN BOARD



## 3-5. PINCH ROLLER BLK ASSY, BELT



# SECTION 4
# TEST MODE

## 4-1. TEST MODE FOR NOT CONNECTING THE WHOLE SYSTEM (When connecting TA-SP55,ST-SP55,TC-SP55)

### 4-1-1. SETTING THE TEST MODE

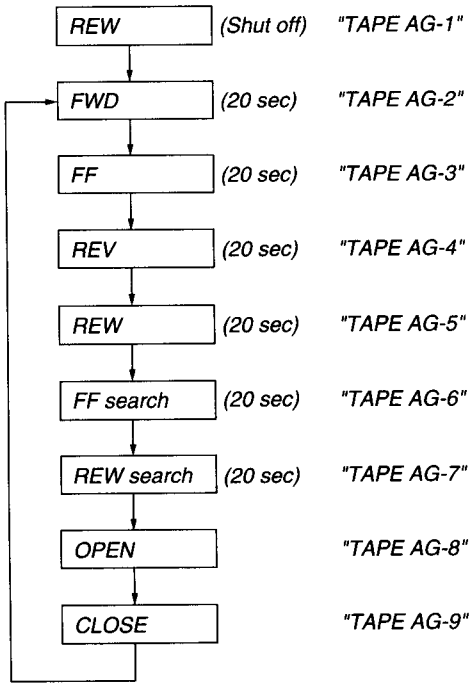
**Procedure:**

1. When the power ON, press the [I/⏻] button (TA) while pressing the [□] button (TC) and [CD SYNC REC] buttons (TC) together.
2. When the test mode is set, the PAUSE LED will light up for 0.1 seconds at intervals of 3.2 seconds.
3. To exit the test mode, either press the [I/⏻] button (TA) and turn OFF the power.

### 4-1-2. TC AGING MODE

**Procedure:**

1. After setting the test mode, press the [▷] button (TC).
2. Operations are performed in the following sequence during aging.




### 4-1-3. TC AMS CHECK

**Procedure:**

1. After setting the test mode, pressing the [□] button (TC) and then the [CD SYNC REC] button (TC) will start REW operations.
2. After rewinding to the tape top,FF search in the FWD direction starts.
   "TAPE EDG*" will be displayed.(*: Arbitrary number)
3. After FF searching to the tape end, the tape will be automatically stopped, and "TAPE OK" or "TAPE NG" will be displayed.

### 4-1-4. TC REC START POINT

**Procedure:**

1. Set the test mode, and press the [REC] button (TC) and then the [▷] button (TC) to set the recording state.
2. Pressing the [CD SYNC REC] button (TC) returns to the starting point of recording.

## 4-2. TEST MODE FOR CONNECTING THE WHOLE SYSTEM

### 4-2-1. TC Aging Mode (Connecting The Whole System)

- Mode for repeating operations of the CD player and TC deck automatically.

**When errors occur:**

Aging stops and a message indicating that an error has occurred such as "CD MEC ERR" is displayed.
(For details of errors, refer to "Error History Display Mode".)

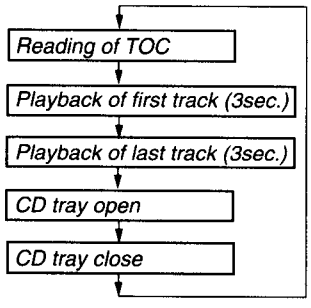
**When no errors occur:**

Aging is repeatedly performed.

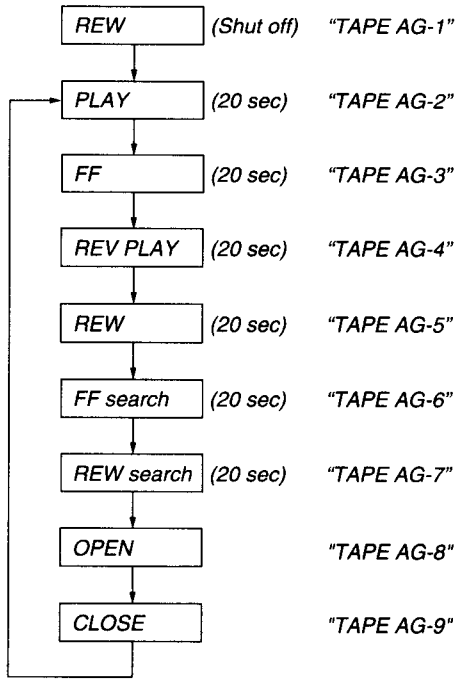
**Procedure:**

1. Load any CD and a tape.
2. Select the function "CD" using the [FUNCTION] knob(TA) .
3. While pressing the [TUNING MODE] button (ST) and [▷] button (CDP), press the [I/⏻] button (TA).
4. "AGING" is displayed on the fluorescent display tube briefly.
5. Operations are performed in the following sequence during aging.
   Every pressing of [DISPLAY] button (ST) changes the display in the CD display and TAPE display.

**CD :**




**Cassette :**




6. To end aging, execute the cold reset.

# SECTION 5
# MECHANICAL ADJUSTMENTS

### Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   - record/playback heads
   - erase head
   - capstan
   - pinch rollers
   - rubber belts
   - idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

### Torque Measurement

| Mode | Torque meter | Meter reading |
|---|---|---|
| FWD | CQ-102C | 3.04 – 6.96 N • m<br>(31 to 71 g • cm)<br>(0.43 – 0.98 oz • inch) |
| FWD<br>back tension | CQ-102C | 0.20 – 0.58 N • m<br>(2 to 6 g • cm)<br>(0.02 – 0.08 oz • inch) |
| REV | CQ-102RC | 3.04 – 6.96 N • m<br>(31 to 71 g • cm)<br>(0.43 – 0.98 oz • inch) |
| REV<br>back tension | CQ-102RC | 0.20 – 0.58 N • m<br>(2 to 6 g • cm)<br>(0.02 – 0.08 oz • inch) |
| FF/REW | CQ-201B | 6.97 – 14.02 N • m<br>(71 to 143 g • cm)<br>(0.98 – 1.99 oz • inch) |
| FWD tension | CQ-403A | 0.98 N • m or more<br>(100 g or more)<br>(3.53 oz or more) |
| REV tension | CQ-403R | 0.98 N • m or more<br>(100 g or more)<br>(3.53 oz or more) |

# SECTION 6
# ELECTRICAL ADJUSTMENTS

**0 DB=0.775V**

**Note:** Before starting the adjustment, measure performance of the machine. Perform adjustment only when the measured performances do not satisfy the specifications.

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

completed before performing recording circuit adjustment.)

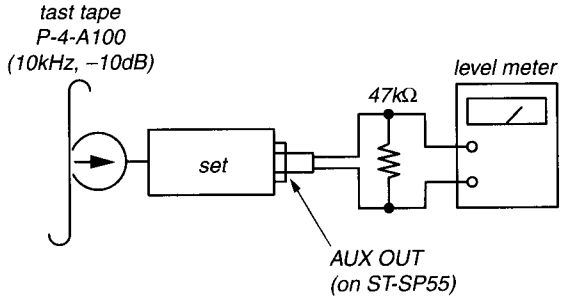
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

| Tape | Signal | Used for |
|---|---|---|
| P-4-A100 | 10 kHz, –10 dB | Azimuth Adjustment |
| WS-48B | 3 kHz, 0 dB | Tape Speed Adjustment |
| P-4-L300 | 315 Hz, 0 dB | Level Adjustment |

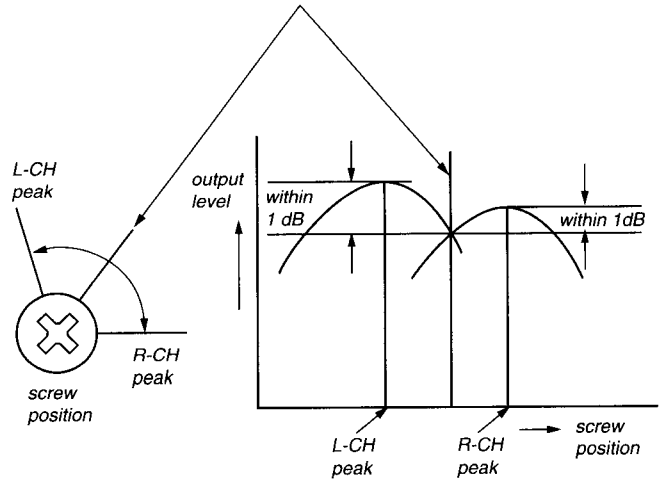
### Record/Playback Head Azimuth Adjustment

**Procedure:**

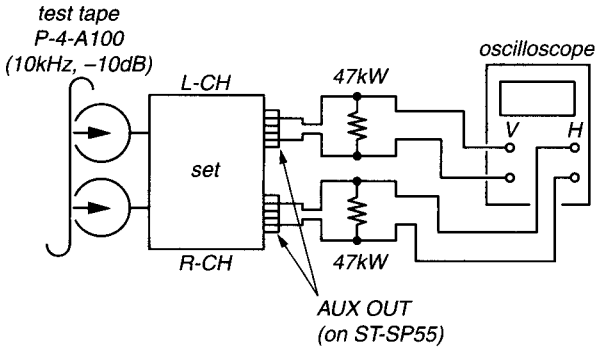
1. Mode : FWD playback



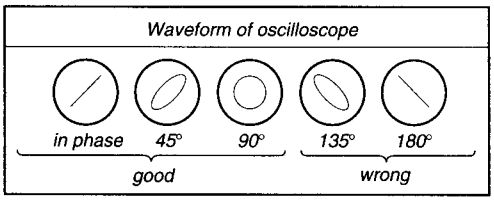

2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



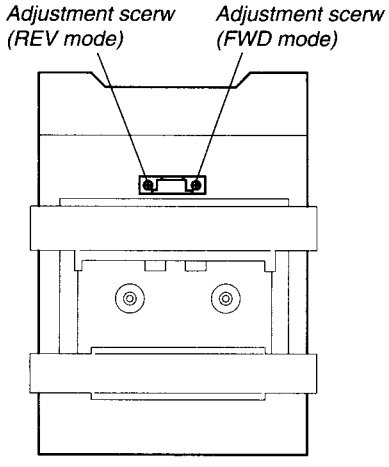
3. Phase check
   Model: FWD playback




4. Perform steps 1 to 3 in the FWD playback mode.
5. Confirm that phase error between L-ch and R-ch is in the range of same phase to 90 degrees.
6. After the adjustments, apply suitable locking compound to the parts adjusted.

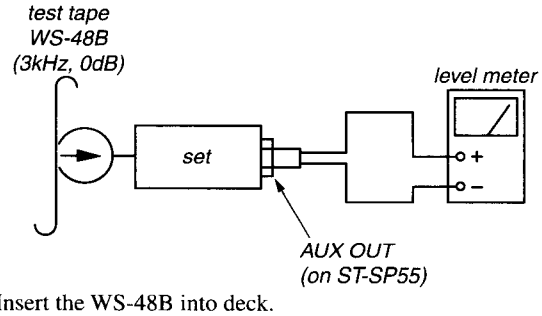



**Adjustment Location:**




## Tape Speed Adjustment

**Procedure:**




1. Insert the WS-48B into deck.
2. Press the ▷ button of deck.
3. Adjust RV362 of the MAIN board so that the reading of the frequency counter becomes 3000 ± 90 Hz.

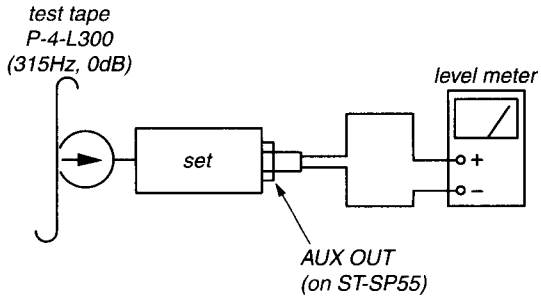
**Adjustment Location:** MAIN board

## Sample Value of Wow and flutter

W.RMS (JIS) less than 0.3%
(test tape: WS-48B)

## Playback Level Adjustment

**Procedure:**
Mode: FWD playback

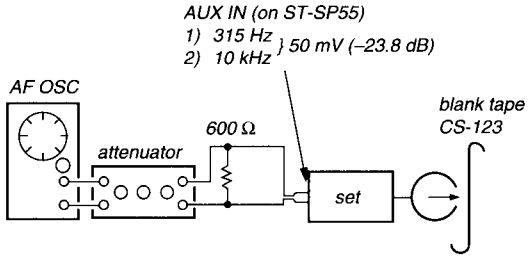



Adjust RV211 (L-CH) and RV261 (R-CH), so that adjustment within the following adjustment level.

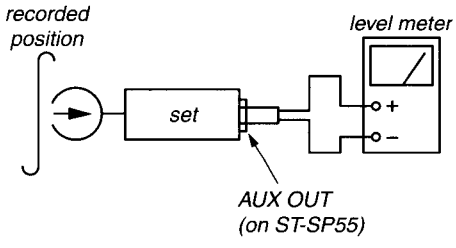
**Adjustment level:**
AUX OUT level: –8.2 ± 0.5 dB (285 to 319 mV)
Level difference between the channels: within ± 1.0 dB
Confirm that the AUX OUT level does not change even though play and stop are repeated.

## Record Bias Adjustment

**Procedure:**
1. Record mode.




2. Playback mode.

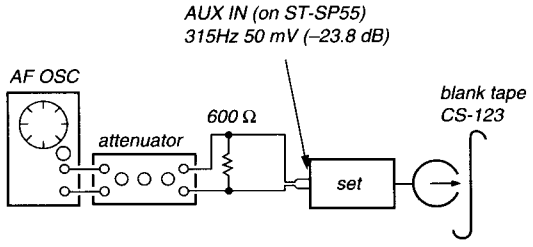



3. Confirm playback the signal recorded in step 1 become adjustment level as follows.
   **Note:** You had better to refer "4-1-4. TC REC START POINT" See page 9) when this adjustment
4. If these levels do not adjustment level, adjust the RV311 (L-CH) and RV361 (R-CH), to repeat steps 1 to 3.
   **Adjustment level:**
   The playback outpout of 10 kHz level difference adjust 315 Hz reference should be 0 dB ± 0.5 dB.

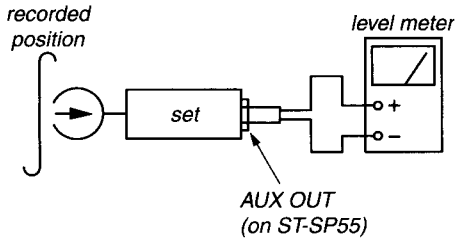
### Record Level Adjustment

**Procedure:**

1. Record mode.




2. Playback mode.

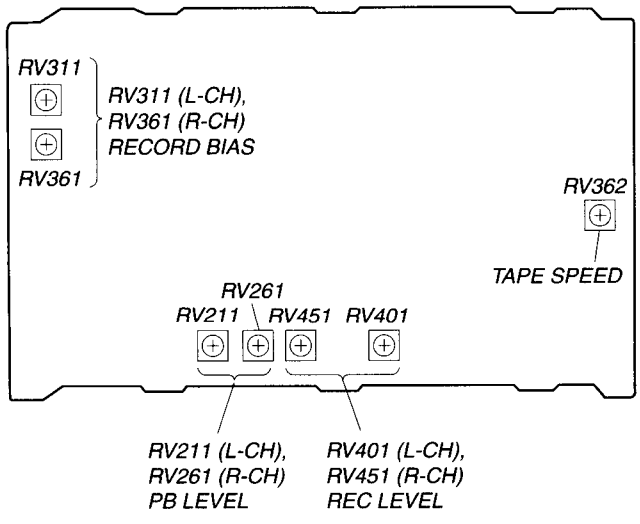



3. Confirm playback the signal recorded in step 1 become adjustment level as follows.
4. If these levels do not adjustment level, adjust the RV401 (L-CH) and RV451 (R-CH), on the MAIN board to repeat steps 1 to 3.

**Adjustment level:**

LINE OUT level: –21.8 dB ± 0.5 dB (59.5 to 66.7 mV)

**Adjustment Location:** MAIN board



# SECTION 7
# DIAGRAMS

**THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.**
**(In addition to this, the necessary note is printed in each block.)**

### For schematic diagrams.

**Note:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- B− : B− Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : PB
  : REC
- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model

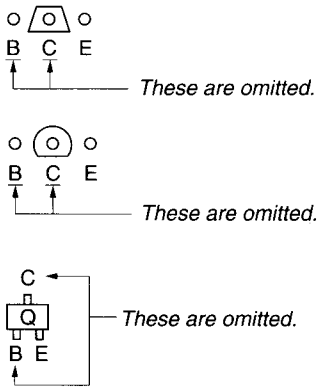
### For printed wiring boards.

**Note:**

- o—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- : Pattern from the side which enables seeing.

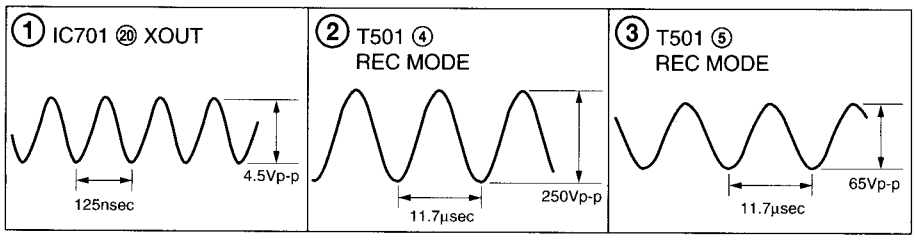
(The other layers' patterns are not indicated.)

- **Indication of transistor**

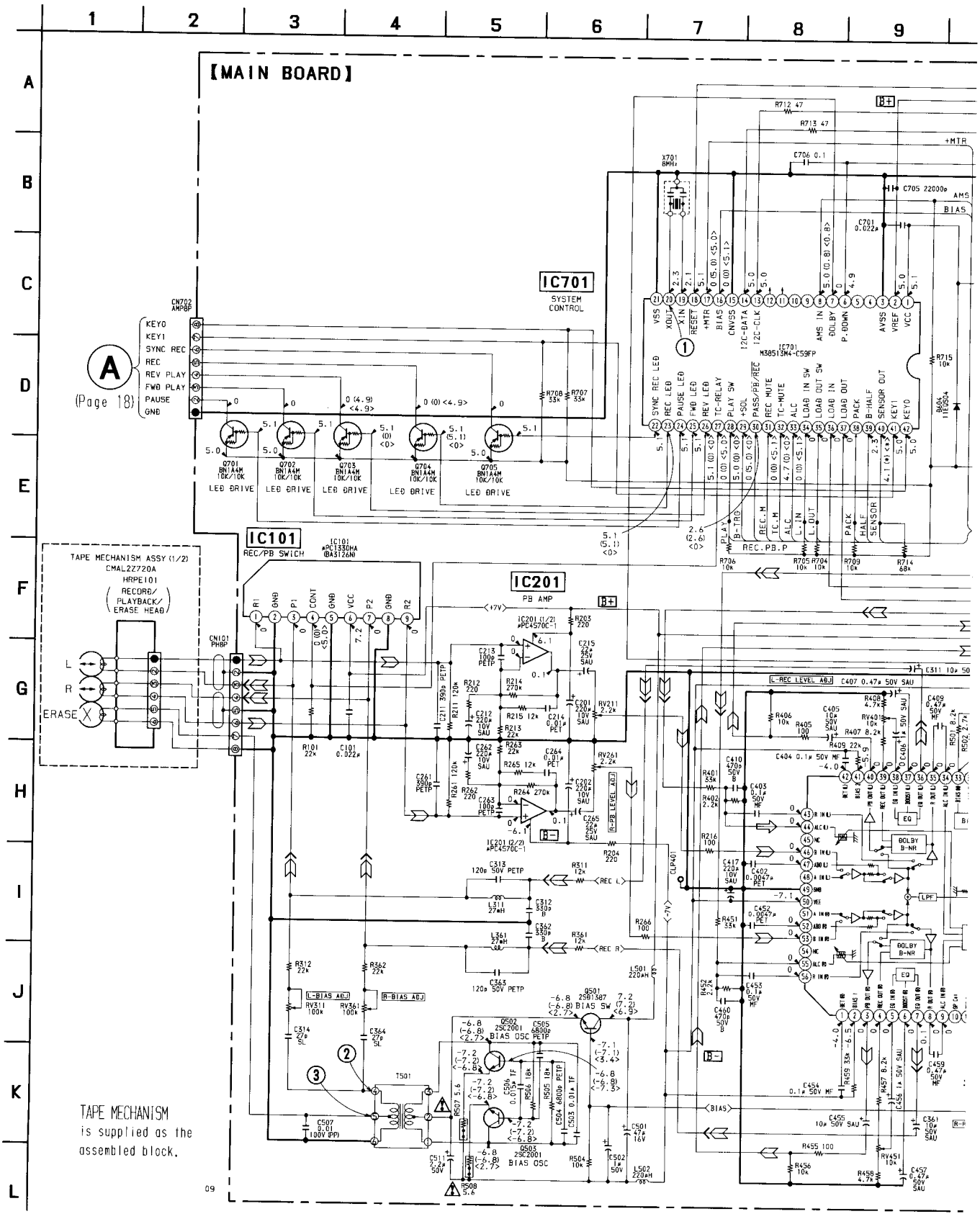


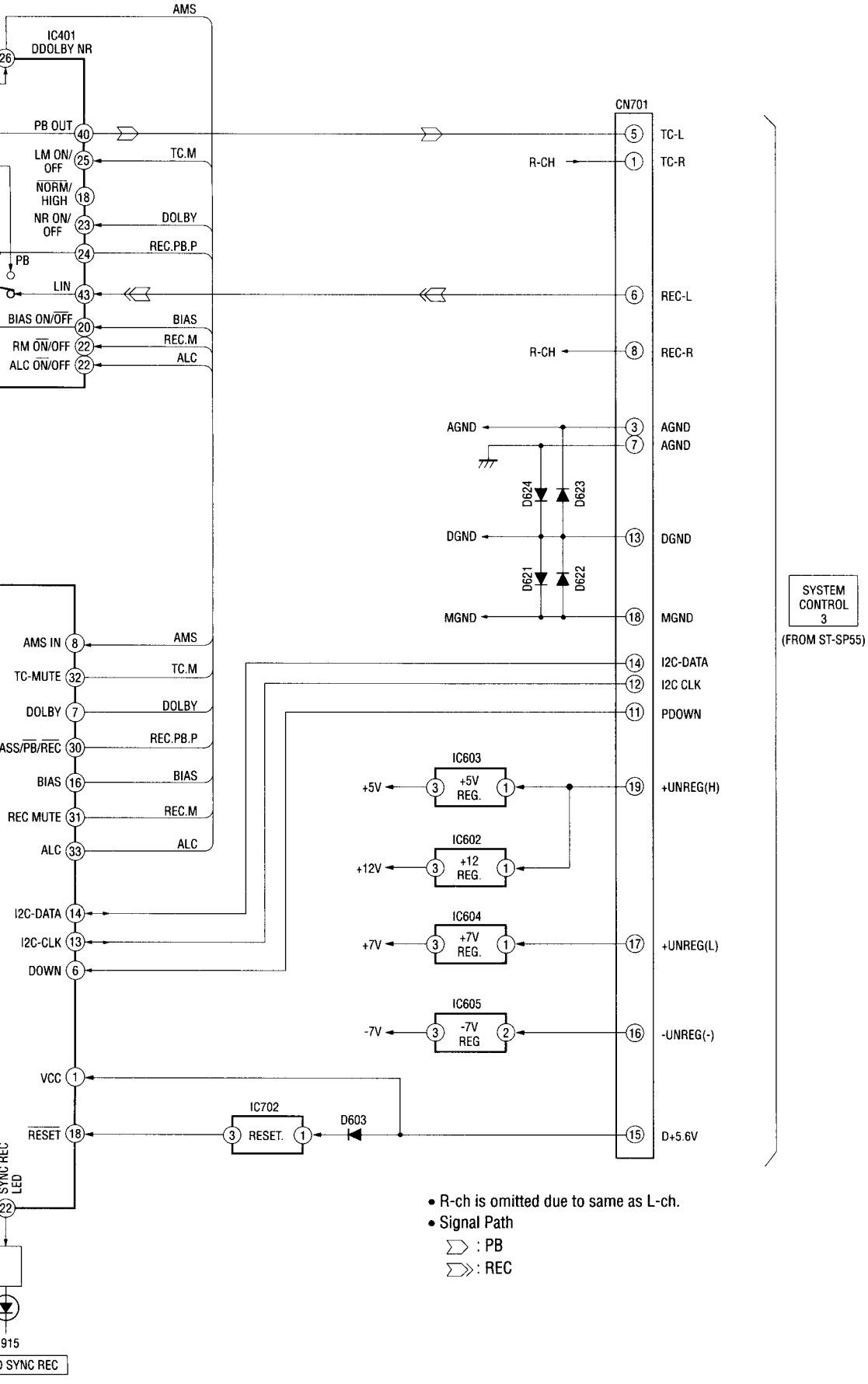

## • WAVEFORMS

### – MAIN BOARD –



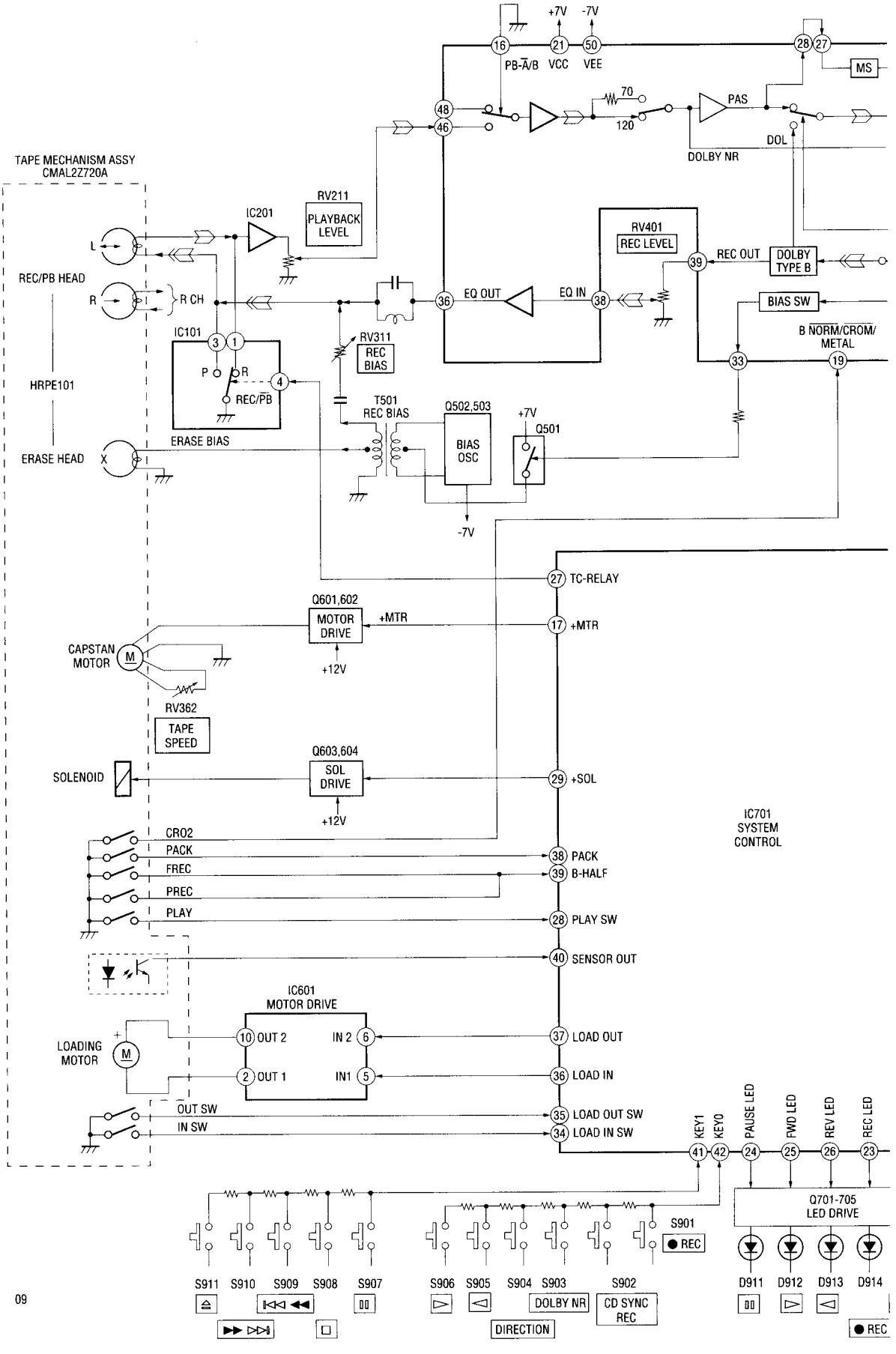
## 7-2. SCHEMATIC DIAGRAM – MAIN SECTION – • See page 14 for Waveforms. • See page 19 for IC Pin Funct





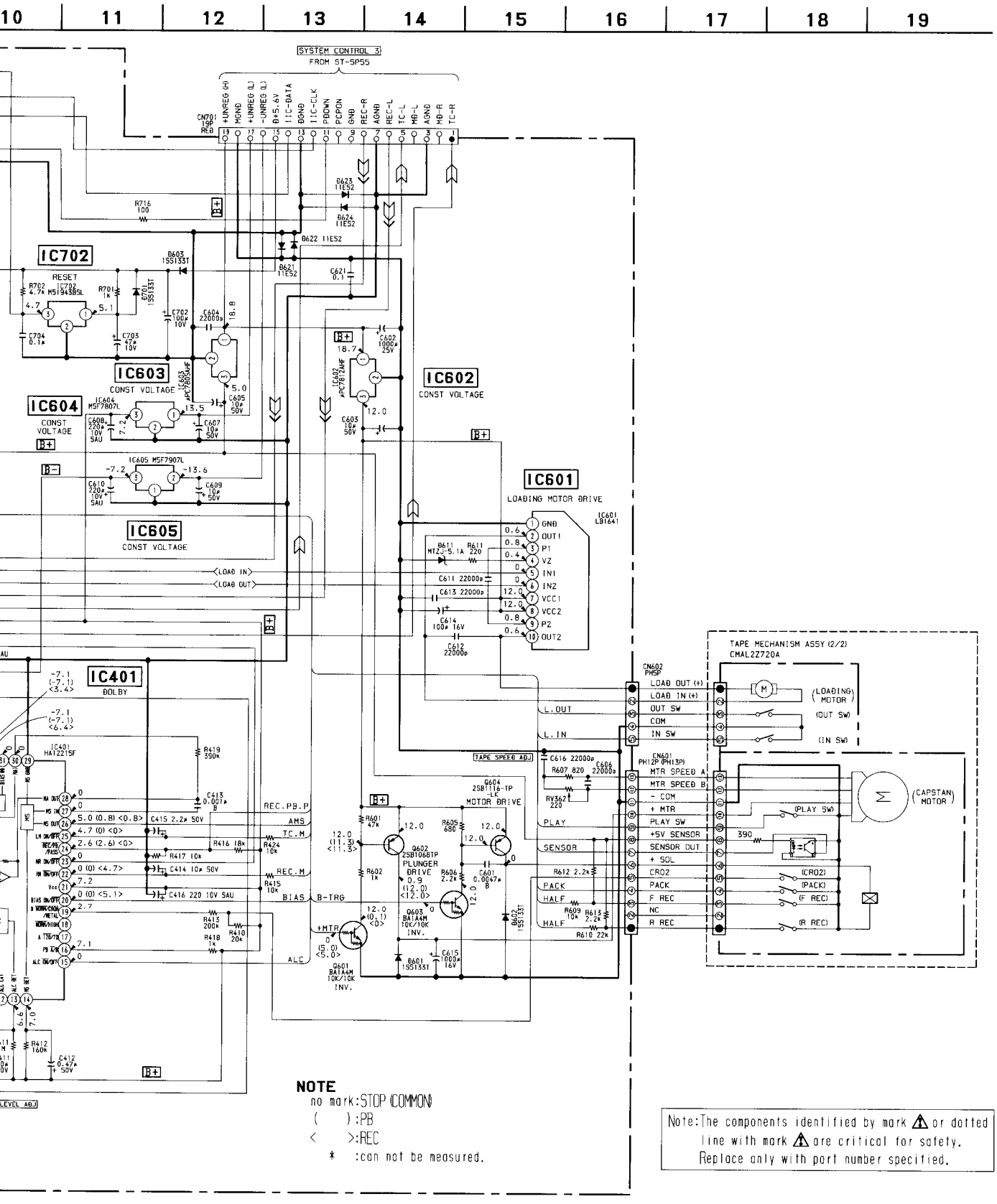

- R-ch is omitted due to same as L-ch.
- Signal Path
  - : PB
  - : REC

## 7-1. BLOCK DIAGRAM




09

ons. • See page 20 for IC Block Diagrams.




**NOTE**

no mark: STOP (COMMON)

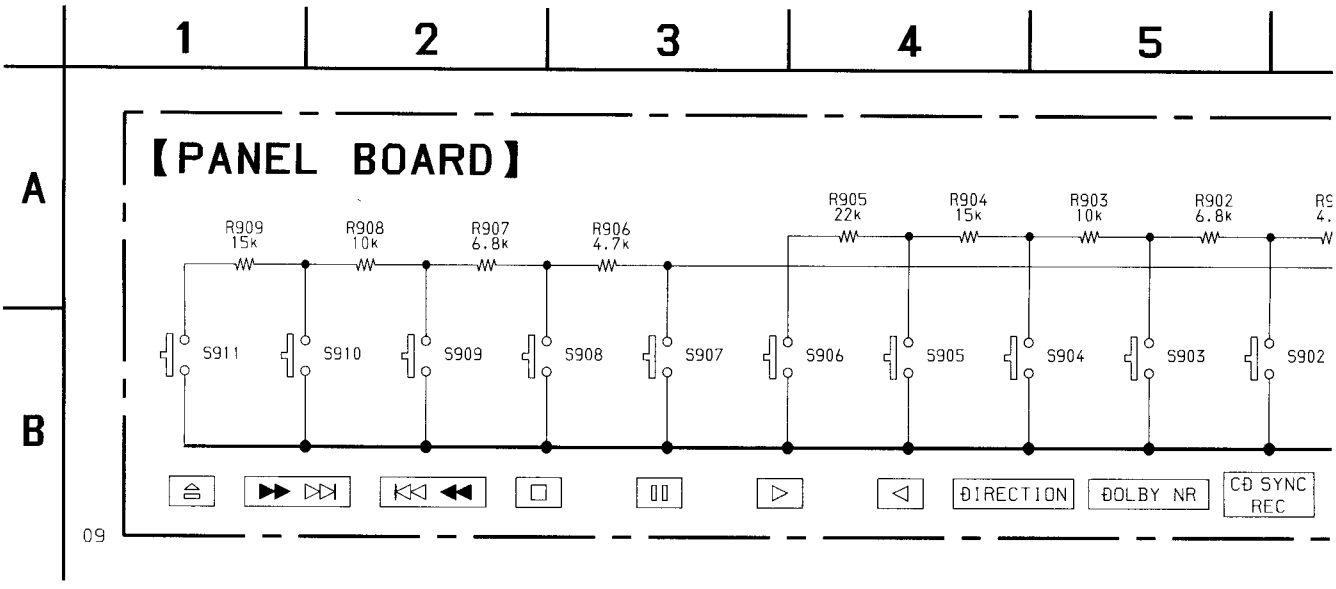
( ) : PB

< > : REC

* : can not be measured.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

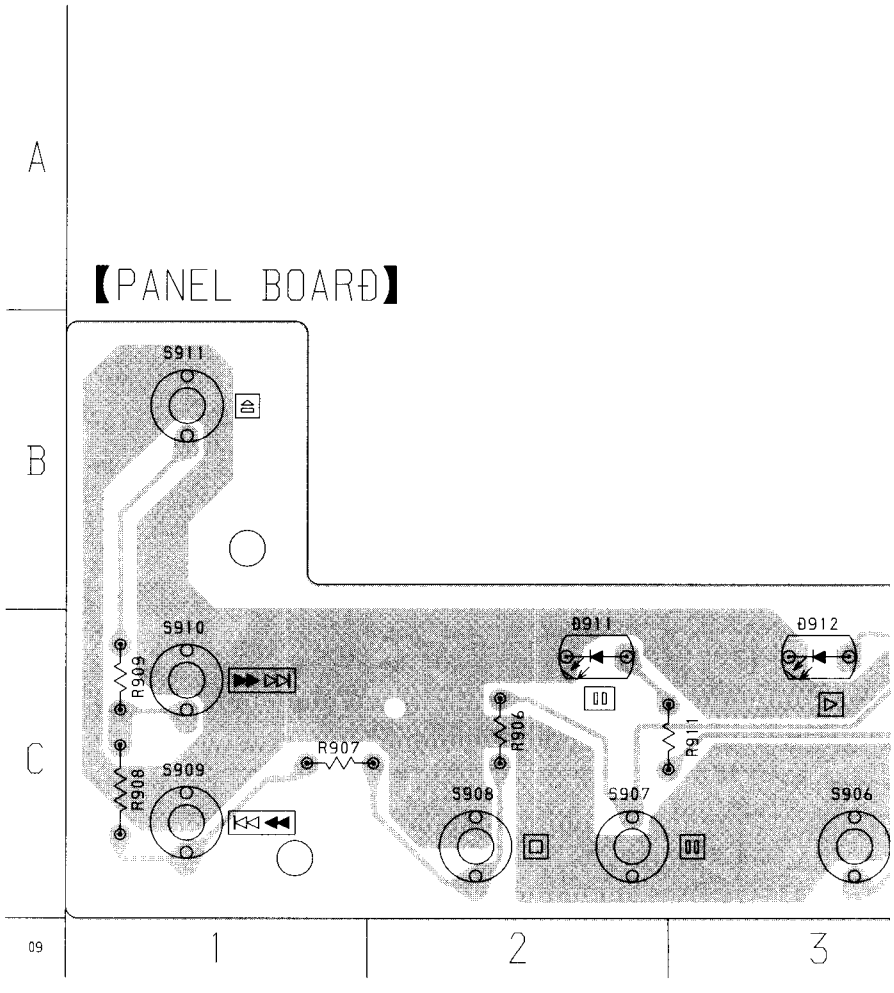
## 7-4. SCHEMATIC DIAGRAM – PANEL SECTION –



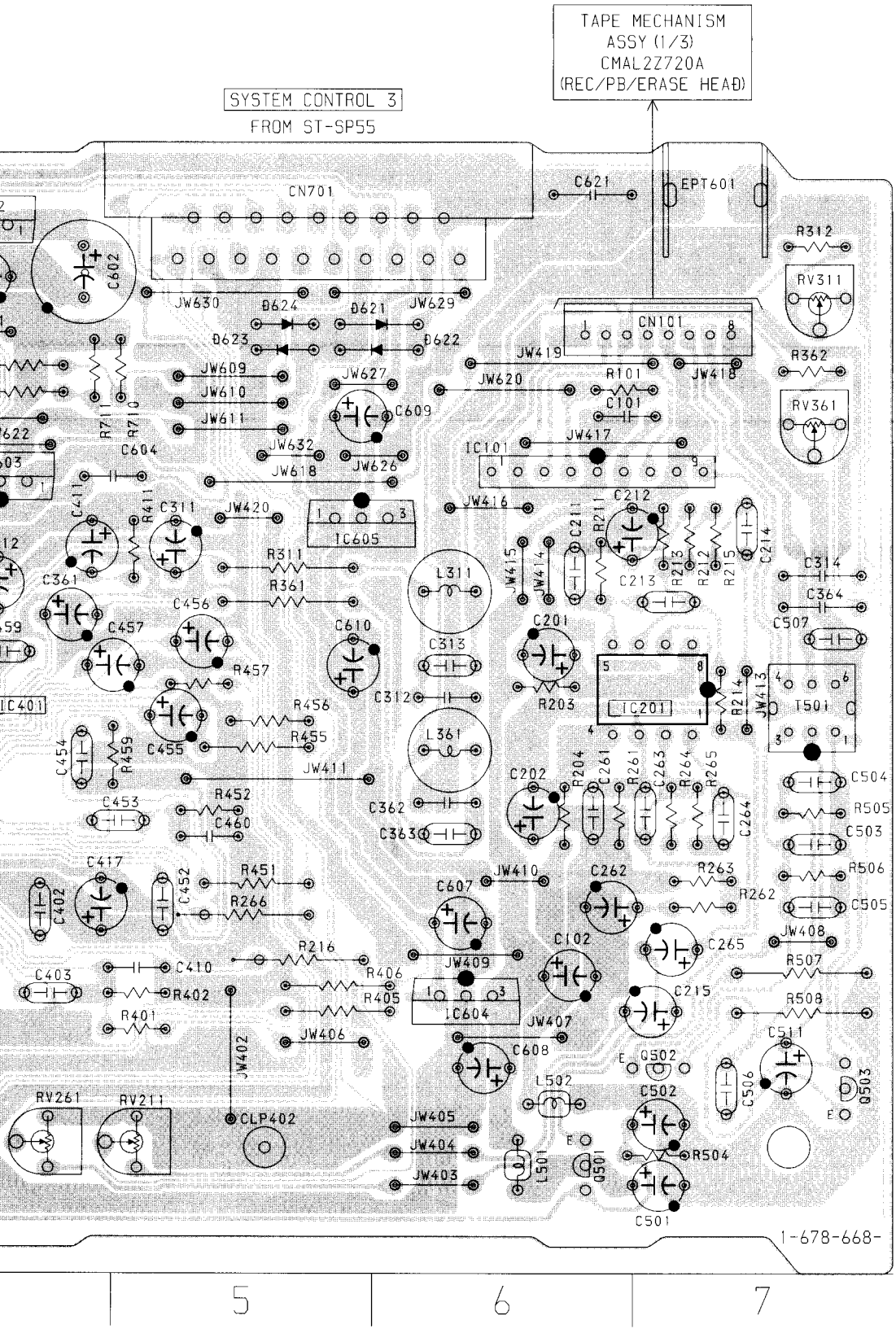

## 7-5. PRINTED WIRING BOARD – PANEL SECTION –

- **Semiconductor Location**

| Ref. No. | Location |
|---|---|
| D911 | C-2 |
| D912 | C-3 |
| D913 | C-4 |
| D914 | A-6 |
| D915 | A-7 |




There are a few cases that the part isn't mounted in model is printed on diagram.

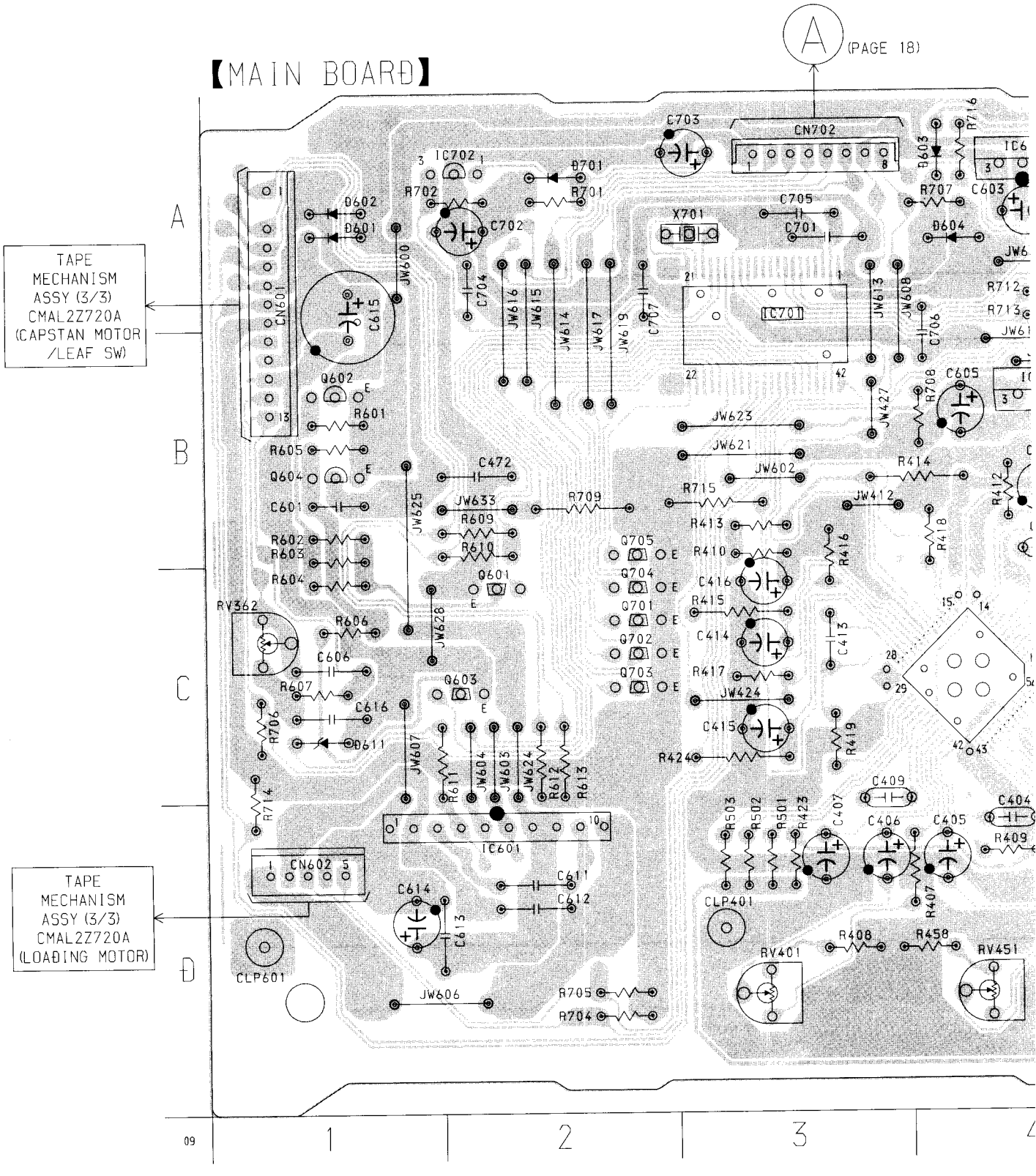


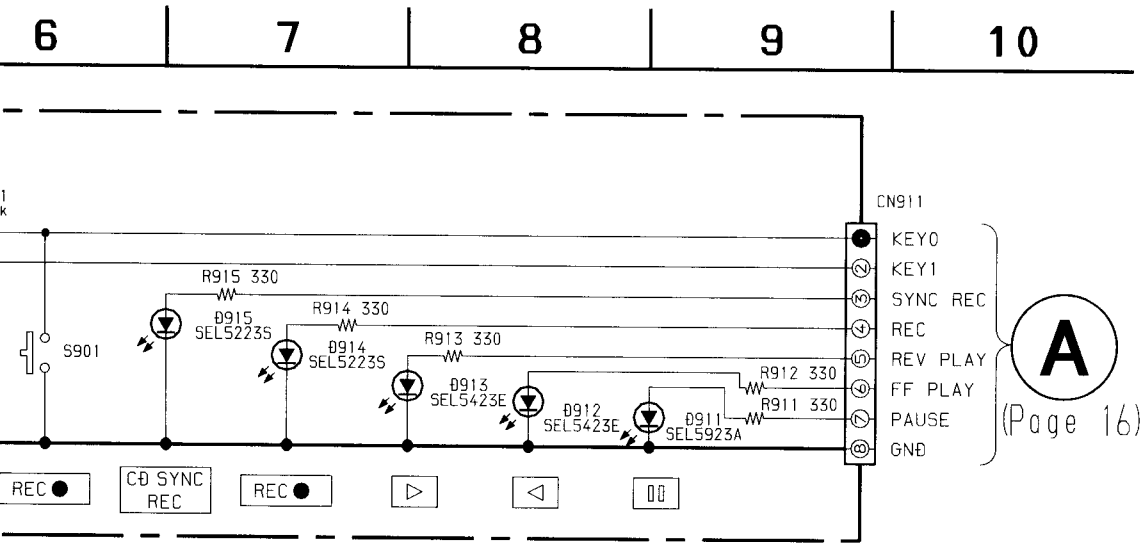

- **Semiconductor Location**

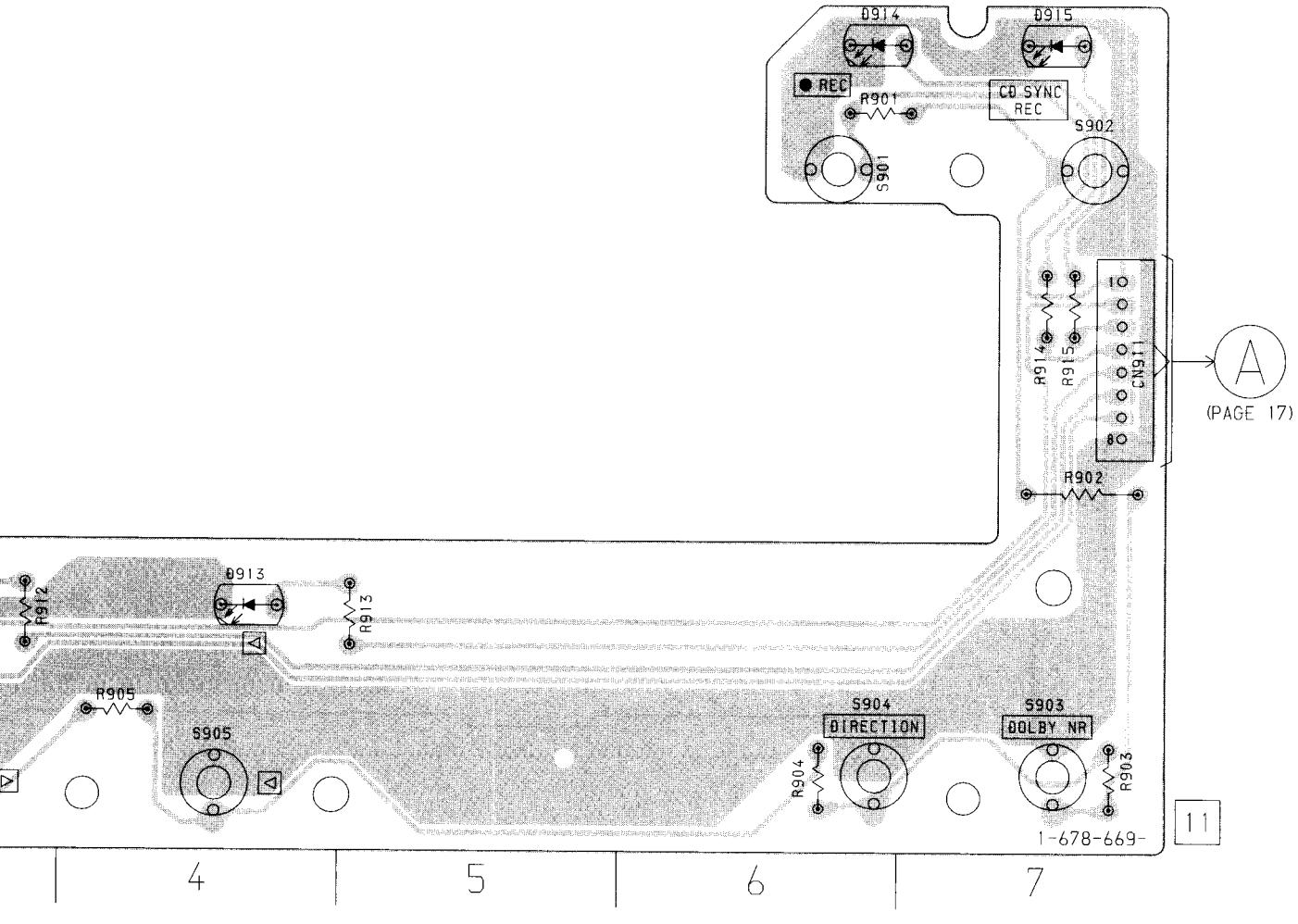
| Ref. No. | Location |
|---|---|
| D601 | A-1 |
| D602 | A-1 |
| D603 | A-4 |
| D604 | A-4 |
| D611 | C-1 |
| D621 | A-5 |
| D622 | A-5 |
| D623 | A-5 |
| D624 | A-5 |
| D701 | A-2 |
| | |
| IC101 | B-6 |
| IC201 | C-7 |
| IC401 | C-4 |
| IC601 | D-2 |
| IC602 | A-4 |
| IC603 | B-4 |
| IC604 | D-6 |
| IC605 | B-5 |
| IC701 | B-3 |
| IC702 | A-2 |
| | |
| Q501 | D-6 |
| Q502 | D-7 |
| Q503 | D-7 |
| Q601 | C-2 |
| Q602 | B-1 |
| Q603 | C-2 |
| Q604 | B-1 |
| Q701 | C-2 |
| Q702 | C-2 |
| Q703 | C-2 |
| Q704 | C-2 |
| Q705 | B-2 |

There are a few cases that the part isn't mounted in model is printed on diagram.

## 7-3. PRINTED WIRING BOARD – MAIN SECTION –




6
7
8
9
10
CN911
KEY0
KEY1
SYNC REC
REC
REV PLAY
FF PLAY
PAUSE
GND
R915 330
R914 330
R913 330
R912 330
R911 330
D915 SEL5223S
D914 SEL5223S
D913 SEL5423E
D912 SEL5423E
D911 SEL5923A
S901
A
(Page 16)
REC
CD SYNC REC
REC


D914
D915
REC
R901
CD SYNC REC
S902
S901
R914
R915
CN911
A
(PAGE 17)
R902
D913
R912
R913
R905
S905
S904
DIRECTION
S903
DOLBY NR
R904
R903
1-678-669-
11
4
5
6
7

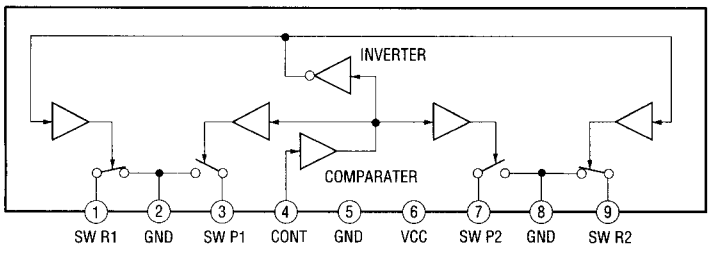
## 7-6. IC PIN FUNCTIONS

### • IC701 M38513M4-C59FP SYSTEM CONTROL (MAIN BOARD)

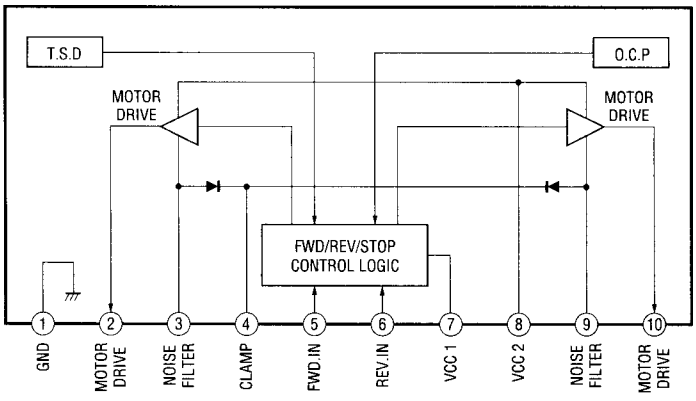
| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 1 | VCC | — | Power supply.(+5V) |
| 2 | VREF | — | Analog Reference Voltage. |
| 3 | AVSS | — | Ground. |
| 4 | NC | — | Not used. |
| 5 | NC | — | Not used. |
| 6 | P.DOWN | I | POWER DOWN signal control signal input. H: Normal L: STANDBY mode |
| 7 | DOLBY | O | DOLBY B NR control signal output. H: ON L: OFF |
| 8 | AMS IN | I | AMS search signal input. |
| 9 | NC | — | Not used. |
| 10 | NC | — | Not used. |
| 11 | NC | — | Not used. |
| 12 | NC | — | Not used. |
| 13 | I2C-CLK | I/O | IIC bus clock input/output. |
| 14 | I2C-DATA | I/O | IIC bus data input/output. |
| 15 | CNVSS | — | Connected to ground. |
| 16 | BIAS | O | REC bias control signal output. H: ON L: OFF |
| 17 | +MTR | O | Capstan Motor control. H: ON L: OFF |
| 18 | $\overline{\text{RESET}}$ | I | Reset signal input. L: RESET |
| 19 | XIN | I | Ceramic oscillator input.(8MHz) |
| 20 | XOUT | O | Ceramic oscillator output.(8MHz) |
| 21 | VSS | — | Ground. |
| 22 | SYNC REC LED | O | CD SYNC LED control signal output. H: OFF L: ON |
| 23 | REC LED | O | REC LED control signal output. H: OFF L: ON |
| 24 | PAUSE LED | O | PAUSE LED control signal output. H: OFF L: ON |
| 25 | FWD LED | O | FWD LED control signal output. H: OFF L: ON |
| 26 | REV LED | O | REV LED control signal output. H: OFF L: ON |
| 27 | TC-RELAY | O | Head REC/PB select signal output. H: REC L: PB |
| 28 | PLAY SW | I | MC PLAY switch signal input. |
| 29 | +SOL | O | MC mode exchange solenoid control signal output. |
| 30 | $\overline{\text{REC}}$/PB/PASS | I/O | REC/PB/PASS select . H: REC PASS L: REC mode 1/2Vcc: PB MODE |
| 31 | REC MUTE | O | REC MUTE control. H: ON L: OFF |
| 32 | TC-MUTE | O | TC LINE MUTE control signal output. H: ON L: OFF |
| 33 | ALC | O | Automatic level control signal output. H: OFF L: ON |
| 34 | LOAD IN SW | I | Detection input from the tray open/close switch. H: LOAD IN |
| 35 | LOAD OUT SW | I | Detection input from the tray open/close switch. L: LOAD OUT |
| 36 | LOAD IN | O | Tray loading motor LOAD IN signal output. H: ON L: OFF |
| 37 | LOAD OUT | O | Tray loading motor LOAD OUT signal output. H: ON L:OFF |
| 38 | PACK | I | Detection input from the cassette half switch. H: HALF OFF L: HALF ON (H:without a half L: within a half) |
| 39 | B-HALF | I | REC proof detect signal input. |
| 40 | SENSOR OUT | I | Reel senser signal input. |
| 41 | KEY1 | I | Key input. |
| 42 | KEY0 | I | Key input. |

## 7-7. IC BLOCK DIAGRAMS

### IC101 µPC1330HA (MAIN BOARD)




### IC601 LB1641 (MAIN BOARD)

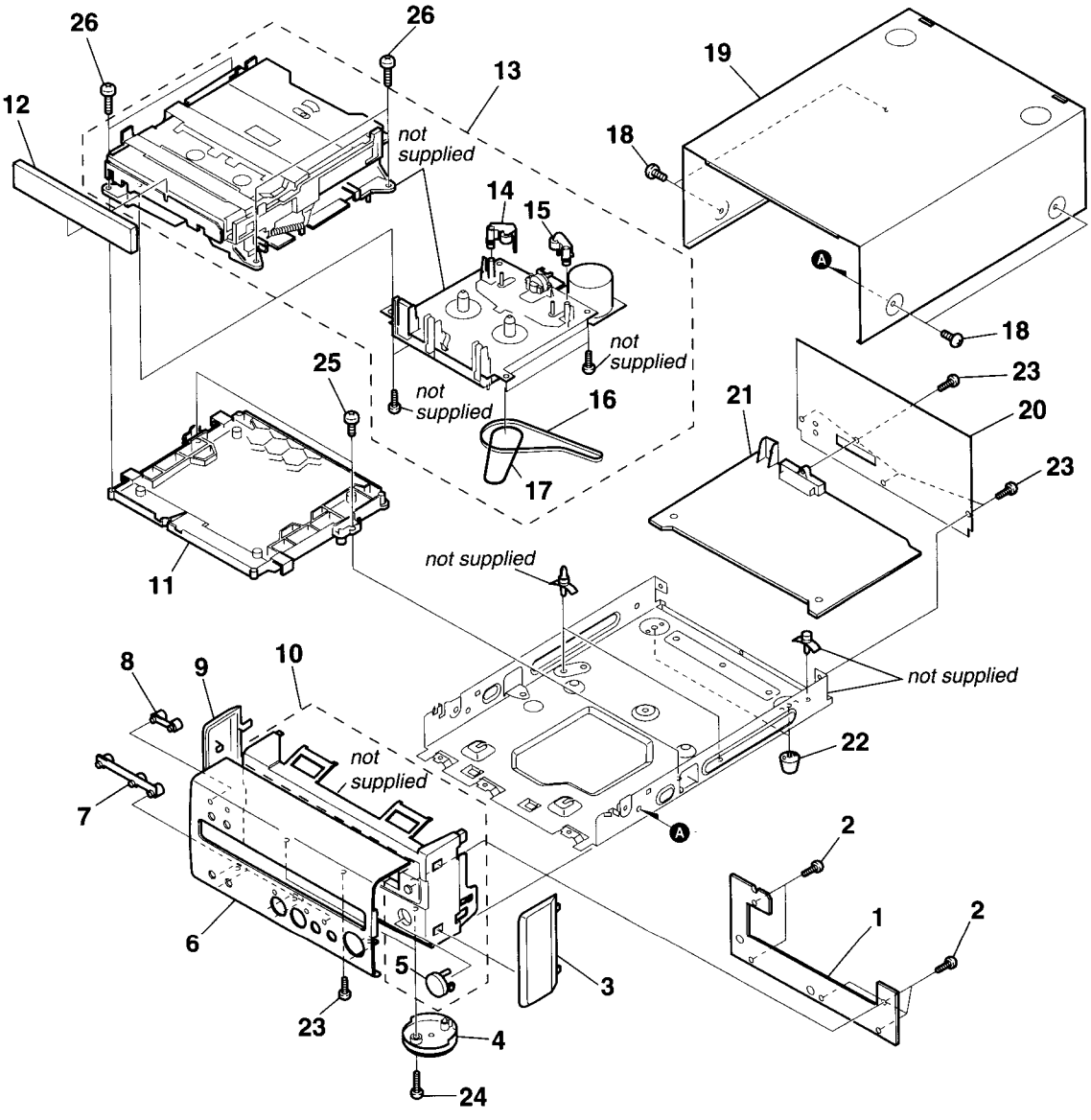


# SECTION 8
# EXPLODED VIEW

NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of the electrical parts list.
- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## 8-1. CASE AND FRONT PANEL




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | 1-678-669-11 | PANEL BOARD | |
| 2 | 4-951-620-01 | SCREW(2.6X8), +BVTP | |
| 3 | 4-229-703-01 | PLATE(R), SIDE | |
| 4 | X-4953-027-1 | FOOT ASSY | |
| 5 | 4-229-678-01 | BUTTON (U/D) | |
| 6 | 4-229-648-01 | PANEL (TC), FRONT | |
| 7 | 4-229-652-01 | INDICATOR (PLAY) | |
| 8 | 4-229-651-01 | INDICATOR (REC) | |
| 9 | 4-229-704-01 | PLATE (L), SIDE | |
| 10 | X-4953-025-1 | PANEL ASSY (TC), SUB | |
| 11 | 4-229-653-01 | HOLDER (TC) | |
| 12 | 4-229-649-01 | PANEL, LOADING | |
| 13 | A-2004-777-A | MECHANISM (CMAL2Z720A) ASSY | |
| 14 | X-4949-569-1 | PINCH ROLLER BLK L ASSY | |
| 15 | X-4949-568-1 | PINCH ROLLER BLK R ASSY | |
| 16 | 3-356-744-01 | BELT MAIN | |
| 17 | 4-928-951-21 | F/R BELT | |
| 18 | 3-363-099-51 | SCREW (CASE 3 TP2) | |
| 19 | 4-229-701-31 | CASE | |
| 20 | 4-229-654-01 | PANEL, BACK (AEP,UK,AED) | |
| 20 | 4-229-654-21 | PANEL, BACK (MY,SP) | |
| 21 | A-2007-857-A | MAIN BOARD, COMPLETE | |
| 22 | 4-965-822-01 | FOOT | |
| 23 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S | |
| 24 | 7-685-648-79 | SCREW +BVTP 3X12 TYPE2 N-S | |
| 25 | 7-685-871-01 | SCREW +BVTT 3X6 (S) | |
| 26 | 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 N-S | |

**MAIN**

# SECTION 9
# ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA. . : μA. .  uPA. . : μPA. .
  uPB. . : μPB. .  uPC. . : μPC. .
  uPD. . : μPD. .
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

- Abbreviation
  AED : North European model
  MY : Malaysia model
  SP : Singapore model

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | A-2007-857-A | MAIN BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C201 | 1-128-832-11 | ELECT | 220uF | 20% | 10V |
| C202 | 1-128-832-11 | ELECT | 220uF | 20% | 10V |
| C211 | 1-110-342-11 | MYLAR | 390PF | 5% | 50V |
| C212 | 1-128-832-11 | ELECT | 220uF | 20% | 10V |
| C213 | 1-110-335-11 | MYLAR | 100PF | 5% | 50V |
| C214 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V |
| C215 | 1-128-858-91 | ELECT | 22uF | 20% | 25V |
| C261 | 1-110-342-11 | MYLAR | 390PF | 5% | 50V |
| C262 | 1-128-832-11 | ELECT | 220uF | 20% | 10V |
| C263 | 1-110-335-11 | MYLAR | 100PF | 5% | 50V |
| C264 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V |
| C265 | 1-128-858-91 | ELECT | 22uF | 20% | 25V |
| C311 | 1-119-824-11 | ELECT MELF | 10uF | 20% | 50V |
| C312 | 1-162-288-31 | CERAMIC | 330PF | 10% | 50V |
| C313 | 1-137-427-11 | MYLAR | 120PF | 5% | 50V |
| C314 | 1-162-209-31 | CERAMIC | 27PF | 5% | 50V |
| C361 | 1-119-824-11 | ELECT MELF | 10uF | 20% | 50V |
| C362 | 1-162-288-31 | CERAMIC | 330PF | 10% | 50V |
| C363 | 1-137-427-11 | MYLAR | 120PF | 5% | 50V |
| C364 | 1-162-209-31 | CERAMIC | 27PF | 5% | 50V |
| C402 | 1-130-479-00 | MYLAR | 0.0047uF | 5% | 50V |
| C403 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C404 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C405 | 1-119-824-11 | ELECT MELF | 10uF | 20% | 50V |
| C406 | 1-119-820-11 | ELECT | 1uF | 20% | 50V |
| C407 | 1-128-854-11 | ELECT | 0.47uF | 20% | 50V |
| C409 | 1-137-194-81 | FILM | 0.47uF | 5% | 50V |
| C410 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C411 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C412 | 1-126-959-11 | ELECT | 0.47uF | 20% | 50V |
| C413 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C414 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C415 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C416 | 1-128-832-11 | ELECT | 220uF | 20% | 10V |
| C417 | 1-128-832-11 | ELECT | 220uF | 20% | 10V |
| C452 | 1-130-479-00 | MYLAR | 0.0047uF | 5% | 50V |
| C453 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C454 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C455 | 1-119-824-11 | ELECT MELF | 10uF | 20% | 50V |
| C456 | 1-119-820-11 | ELECT | 1uF | 20% | 50V |
| C457 | 1-128-854-11 | ELECT | 0.47uF | 20% | 50V |
| C459 | 1-137-194-81 | FILM | 0.47uF | 5% | 50V |
| C460 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C501 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C502 | 1-126-960-11 | ELECT | 1uF | 20% | 50V |
| C503 | 1-136-153-00 | FILM | 0.01uF | 5% | 50V |
| C504 | 1-130-481-00 | MYLAR | 0.0068uF | 5% | 50V |
| C505 | 1-130-481-00 | MYLAR | 0.0068uF | 5% | 50V |
| C506 | 1-136-155-00 | FILM | 0.015uF | 5% | 50V |
| C507 | 1-137-150-11 | FILM | 0.01uF | 5% | 100V |
| C511 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C601 | 1-162-600-11 | CERAMIC | 0.0047uF | 30% | 16V |
| C602 | 1-126-942-61 | ELECT | 1000uF | 20% | 25V |
| C603 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C604 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C605 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C606 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C607 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C608 | 1-128-832-11 | ELECT | 220uF | 20% | 10V |
| C609 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C610 | 1-128-832-11 | ELECT | 220uF | 20% | 10V |
| C611 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C612 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C613 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C614 | 1-126-933-11 | ELECT | 100uF | 20% | 16V |
| C615 | 1-126-767-11 | ELECT | 1000uF | 20% | 16V |
| C621 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C701 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C702 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C703 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C704 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C705 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C706 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| | | < CONNECTOR > | | | |
| * CN101 | 1-564-710-11 | PIN, CONNECTOR (SMALL TYPE) 8P | | | |
| CN601 | 1-784-927-11 | PIN, CONNECTOR 12P | | | |
| CN602 | 1-564-707-11 | PIN, CONNECTOR (SMALL TYPE) 5P | | | |
| CN701 | 1-793-351-21 | SOCKET, CONNECTOR 19P | | | |
| * CN702 | 1-568-935-11 | PIN, CONNECTOR 8P | | | |
| | | < DIODE > | | | |
| D601 | 8-719-911-19 | DIODE 1SS133T-72 | | | |
| D602 | 8-719-911-19 | DIODE 1SS133T-72 | | | |

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| D603 | 8-719-911-19 | DIODE 1SS133T-72 | | | | |
| D604 | 8-719-210-21 | DIODE 11EQS04-NTA2B | | | | |
| D611 | 8-719-947-16 | DIODE MTZJ-T-72-5.1A | | | | |
| D621 | 8-719-024-99 | DIODE 11ES2-NTA2B | | | | |
| D622 | 8-719-024-99 | DIODE 11ES2-NTA2B | | | | |
| D623 | 8-719-024-99 | DIODE 11ES2-NTA2B | | | | |
| D624 | 8-719-024-99 | DIODE 11ES2-NTA2B | | | | |
| D701 | 8-719-911-19 | DIODE 1SS133T-72 | | | | |
| | | < IC > | | | | |
| IC101 | 8-759-143-54 | IC uPC1330HA | | | | |
| IC201 | 8-759-111-44 | IC uPC4570C-1 | | | | |
| IC401 | 8-759-495-26 | IC HA12215F | | | | |
| IC601 | 8-759-822-09 | IC LB1641 | | | | |
| IC602 | 8-759-088-08 | IC uPC7812AHF | | | | |
| IC603 | 8-759-039-69 | IC uPC7805AHF | | | | |
| IC604 | 8-759-604-86 | IC M5F7807L | | | | |
| IC605 | 8-759-604-90 | IC M5F7907L | | | | |
| IC701 | 8-759-684-70 | IC M38513M4-C59FP | | | | |
| IC702 | 8-759-635-63 | IC M51943BSL-TP | | | | |
| | | < COIL > | | | | |
| L311 | 1-410-092-31 | INDUCTOR | 27MH | | | |
| L361 | 1-410-092-31 | INDUCTOR | 27MH | | | |
| L501 | 1-414-193-41 | INDUCTOR | 220uH | | | |
| L502 | 1-414-193-41 | INDUCTOR | 220uH | | | |
| | | < TRANSISTOR > | | | | |
| Q501 | 8-729-801-93 | TRANSISTOR 2SD1387-34-TP | | | | |
| Q502 | 8-729-142-46 | TRANSISTOR 2SC2001TP-LK | | | | |
| Q503 | 8-729-142-46 | TRANSISTOR 2SC2001TP-LK | | | | |
| Q601 | 8-729-900-80 | TRANSISTOR BA1A4M-TP | | | | |
| Q602 | 8-729-116-59 | TRANSISTOR 2SB1068TP | | | | |
| Q603 | 8-729-900-80 | TRANSISTOR BA1A4M-TP | | | | |
| Q604 | 8-729-140-04 | TRANSISTOR 2SB1116-TP-LK | | | | |
| Q701 | 8-729-422-57 | TRANSISTOR BN1A4M-TP | | | | |
| Q702 | 8-729-422-57 | TRANSISTOR BN1A4M-TP | | | | |
| Q703 | 8-729-422-57 | TRANSISTOR BN1A4M-TP | | | | |
| Q704 | 8-729-422-57 | TRANSISTOR BN1A4M-TP | | | | |
| Q705 | 8-729-422-57 | TRANSISTOR BN1A4M-TP | | | | |
| | | < RESISTOR > | | | | |
| R101 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R203 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | F |
| R204 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | F |
| R211 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W | |
| R212 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | F |
| R213 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R214 | 1-247-889-00 | CARBON | 270K | 5% | 1/4W | |
| R215 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R216 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W | |
| R261 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W | |
| R262 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | F |
| R263 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R264 | 1-247-889-00 | CARBON | 270K | 5% | 1/4W | |
| R265 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R266 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W | |
| R311 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R312 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R361 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R362 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R401 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R402 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | F |
| R405 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W | |
| R406 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R407 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W | F |
| R408 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | F |
| R409 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R410 | 1-247-862-11 | CARBON | 20K | 5% | 1/4W | |
| R411 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W | |
| R412 | 1-247-884-11 | CARBON | 160K | 5% | 1/4W | |
| R413 | 1-247-886-11 | CARBON | 200K | 5% | 1/4W | |
| R415 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R416 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W | |
| R417 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R418 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | F |
| R419 | 1-247-893-11 | CARBON | 390K | 5% | 1/4W | |
| R424 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R451 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R452 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | F |
| R455 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W | |
| R456 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R457 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W | F |
| R458 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | F |
| R459 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R501 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W | F |
| R502 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | F |
| R504 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R505 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W | |
| R506 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W | |
| ⚠R507 | 1-212-851-00 | FUSIBLE | 5.6 | 5% | 1/4W | |
| ⚠R508 | 1-212-851-00 | FUSIBLE | 5.6 | 5% | 1/4W | |
| R601 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W | |
| R602 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | F |
| R605 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W | F |
| R606 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | F |
| R607 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W | F |
| R609 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R610 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R611 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | F |
| R612 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | F |
| R613 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | F |
| R701 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | F |
| R702 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | F |
| R704 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R705 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R706 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R707 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R708 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R709 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R712 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | F |
| R713 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | F |
| R714 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R715 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R716 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W | |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

## MAIN PANEL

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < VARIABLE RESISTOR > | |
| RV211 | 1-241-762-11 | RES, ADJ, CARBON 2.2K | |
| RV261 | 1-241-762-11 | RES, ADJ, CARBON 2.2K | |
| RV311 | 1-241-767-21 | RES, ADJ, CARBON 100K | |
| RV361 | 1-241-767-21 | RES, ADJ, CARBON 100K | |
| RV362 | 1-241-759-11 | RES, ADJ, CARBON 220 | |
| RV401 | 1-241-764-11 | RES, ADJ, CARBON 10K | |
| RV451 | 1-241-764-11 | RES, ADJ, CARBON 10K | |
| | | < TRANSFORMER > | |
| T501 | 1-423-980-11 | TRANSFORMER, BIAS OSCILLATION | |
| | | < VIBRATOR > | |
| X701 | 1-579-125-11 | VIBRATOR, CERAMIC (8MHz) | |
| | | ********** | |
| | 1-678-669-11 | PANEL BOARD | |
| | | ********** | |
| | | < DIODE > | |
| D911 | 8-719-057-97 | DIODE SEL5923A-TP15 (▯▯) | |
| D912 | 8-719-058-03 | DIODE SEL5423E-TP15 (◁) | |
| D913 | 8-719-058-03 | DIODE SEL5423E-TP15 (▷) | |
| D914 | 8-719-058-04 | DIODE SEL5223S-TP15 (● REC) | |
| D915 | 8-719-058-04 | DIODE SEL5223S-TP15 (CD SYNC REC) | |
| | | < RESISTOR > | |

| | | | | | | |
|---|---|---|---|---|---|---|
| R901 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | F |
| R902 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | F |
| R903 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R904 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W | |
| R905 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R906 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | F |
| R907 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | F |
| R908 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R909 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W | |
| R911 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R912 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R913 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R914 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R915 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |

| | | |
|---|---|---|
| | | < SWITCH > |
| S901 | 1-771-410-21 | SWITCH, TACTILE (● REC) |
| S902 | 1-771-410-21 | SWITCH, TACTILE (CD SYNC REC) |
| S903 | 1-771-410-21 | SWITCH, TACTILE (DOLBY NR) |
| S904 | 1-771-410-21 | SWITCH, TACTILE (DIRECTION) |
| S905 | 1-771-410-21 | SWITCH, TACTILE (◁) |
| S906 | 1-771-410-21 | SWITCH, TACTILE (▷) |
| S907 | 1-771-410-21 | SWITCH, TACTILE (▯▯) |
| S908 | 1-771-410-21 | SWITCH, TACTILE (□) |
| S909 | 1-771-410-21 | SWITCH, TACTILE (⏮ ◀◀) |
| S910 | 1-771-410-21 | SWITCH, TACTILE (▶▶ ▷▷⏭) |
| S911 | 1-771-410-21 | SWITCH, TACTILE (⏏) |

**********

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | ACCESSORIES & PACKING MATERIALS | |
| | | ********** | |
| | 1-792-923-11 | CORD (WITH CONNECTOR) (AEP,UK,AED) | |
| | 4-230-237-11 | MANUAL, INSTRUCTION (ENGLISH) (AEP,UK,AED) | |
| | 4-230-237-21 | MANUAL, INSTRUCTION (FRENCH,SPANISH) (AEP,UK,AEC | |
| | 4-230-237-31 | MANUAL, INSTRUCTION (GERMAN,DUTCH) (AEP,UK,AED) | |
| | 4-230-237-41 | MANUAL, INSTRUCTION (ITALIAN,PORTUGUSE,SWEDISH) (AEP,UK,AED) | |



Sony Corporation
Audio Entertainment Group

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